

# Redundant Power Unit

## Fault-tolerant networking!

- Supports up to four switch units
- AC line draws power from different supply circuit
- DC line provides backup power to attached devices
- Thermal overload protection
- Over-voltage protection for each output channel
- Over-current protection can shut down the RPU
- Short-circuit protection against output channels





# Redundant Power Unit User Guide

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Powers up to four SMC networking devices

**SMC<sup>®</sup>**

Networks

38 Tesla

Irvine, CA 92618

Phone: (949) 679-8000

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\* SMC will provide warranty service for one year following discontinuance from the active SMC price list. Under the limited lifetime warranty, internal and external power supplies, fans, and cables are covered by a standard one-year warranty from date of purchase.

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# COMPLIANCES

## FCC - Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

## Industry Canada - Class B

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques," NMB-003 édictée par le ministère des Communications.

## Japan VCCI Class B

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると受信障害を引き起こすことがあります。

取り扱い説明書に従って正しい取り扱いをして下さい。

## **EC Conformance Declaration - Class B**

SMC contact for these products in Europe is:

SMC Networks Europe,  
Edificio Conata II,  
Calle Fructuós Gelabert 6-8, 2<sup>a</sup>, 4<sup>a</sup>,  
08970 - Sant Joan Despí, Barcelona, Spain.

This information technology equipment complies with the requirements of the Council Directive 89/336/EEC on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility and 73/23/EEC for electrical equipment used within certain voltage limits and the Amendment Directive 93/68/EEC. For the evaluation of the compliance with these Directives, the following standards were applied:

- |               |   |
|---------------|---|
| RFI Emission: | <ul style="list-style-type: none"><li>• Limit class B according to EN 55022:1998</li><li>• Limit class A for harmonic current emission according to EN 61000-3-2/1995</li><li>• Limitation of voltage fluctuation and flicker in low-voltage supply system according to EN 61000-3-3/1995</li></ul>   |
| Immunity:     | <ul style="list-style-type: none"><li>• Product family standard according to EN 55024:1998</li><li>• Electrostatic Discharge according to EN 61000-4-2:1995<br/>(Contact Discharge: ±4 kV, Air Discharge: ±8 kV)</li><li>• Radio-frequency electromagnetic field according to EN 61000-4-3:1996<br/>(80 - 1000 MHz with 1 kHz AM 80% Modulation: 3 V/m)</li><li>• Electrical fast transient/burst according to EN 61000-4-4:1995 (AC/<br/>DC power supply: ±1 kV, Data/Signal lines: ±0.5 kV)</li><li>• Surge immunity test according to EN 61000-4-5:1995<br/>(AC/DC Line to Line: ±1 kV, AC/DC Line to Earth: ±2 kV)</li><li>• Immunity to conducted disturbances, Induced by radio-frequency<br/>fields: EN 61000-4-6:1996 (0.15 - 80 MHz with<br/>1 kHz AM 80% Modulation: 3 V/m)</li><li>• Power frequency magnetic field immunity test according to<br/>EN 61000-4-8:1993 (1 A/m at frequency 50 Hz)</li><li>• Voltage dips, short interruptions and voltage variations immunity test<br/>according to EN 61000-4-11:1994 (&gt;95% Reduction @10 ms, 30%<br/>Reduction @500 ms, &gt;95% Reduction @5000 ms)</li></ul> |
| LVD:          | <ul style="list-style-type: none"><li>• EN 60950 :2000</li></ul>  |

## Australia AS/NZS 3548 (1995) - Class B



ACN 069 351 613

SMC contact for products in Australia is:

SMC Communications Pty. Ltd.  
Suite 18, 12 Tryon Road,  
Lindfield NSW 2070,  
Phone: 61-2-94160437  
Fax: 61-2-94160474

### Please read the following safety information carefully before installing the RPU:

**WARNING:** Installation and removal of the unit must be carried out by qualified personnel only.

- This guide is intended for use by network administrators who are responsible for setting up and installing network equipment; consequently it assumes a basic working knowledge of LANs (Local Area Networks).
- The unit must be connected to an earthed (grounded) outlet to comply with international safety standards.
- Do not connect the unit to an A.C. outlet (power supply) without an earth (ground) connection.
- The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN 60320/IEC 320 appliance inlet.
- The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.
- This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.

## COMPLIANCES

### *France and Peru only*

This unit cannot be powered from IT<sup>†</sup> supplies. If your supplies are of IT type, this unit must be powered by 230 V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground).

<sup>†</sup> Impédance à la terre

Power Cord Set	
U.S.A. and Canada	The cord set must be UL-approved and CSA certified.
	The minimum specifications for the flexible cord are: - No. 18 AWG - not longer than 2 meters, or 16 AWG. - Type SV or SJ - 3-conductor
	The cord set must have a rated current capacity of at least 10 A.
	The attachment plug must be an earth-grounding type with NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
Denmark	The supply plug must comply with Section 107-2-D1, Standard DK2-1a or DK2-5a.
Switzerland	The supply plug must comply with SEV/ASE 1011.
U.K.	The supply plug must comply with BS1363 (3-pin 13 A) and be fitted with a 5 A fuse which complies with BS1362.
	The mains cord must be <HAR> or <BASEC> marked and be of type HO3VVF3GO.75 (minimum).
Europe	The supply plug must comply with CEE7/7 ("SCHUKO").
	The mains cord must be <HAR> or <BASEC> marked and be of type HO3VVF3GO.75 (minimum).
	IEC-320 receptacle.

### **Veuillez lire à fond l'information de la sécurité suivante avant d'installer le RPU:**

**AVERTISSEMENT:** L'installation et la dépose de ce groupe doivent être confiés à un personnel qualifié.

- Ne branchez pas votre appareil sur une prise secteur (alimentation électrique) lorsqu'il n'y a pas de connexion de mise à la terre (mise à la masse).

- Vous devez raccorder ce groupe à une sortie mise à la terre (mise à la masse) afin de respecter les normes internationales de sécurité.
- Le coupleur d'appareil (le connecteur du groupe et non pas la prise murale) doit respecter une configuration qui permet un branchement sur une entrée d'appareil EN 60320/IEC 320.
- La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise.
- L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme IEC 60950. Ces conditions ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions.

*France et Pérou uniquement:*

Ce groupe ne peut pas être alimenté par un dispositif à impédance à la terre. Si vos alimentations sont du type impédance à la terre, ce groupe doit être alimenté par une tension de 230 V (2 P+T) par le biais d'un transformateur d'isolement à rapport 1:1, avec un point secondaire de connexion portant l'appellation Neutre et avec raccordement direct à la terre (masse).

<b>Cordon électrique - Il doit être agréé dans le pays d'utilisation</b>	
Etats-Unis et Canada:	<p>Le cordon doit avoir reçu l'homologation des UL et un certificat de la CSA.</p> <p>Les spécifications minimales pour un câble flexible sont AWG No. 18, ou AWG No. 16 pour un câble de longueur inférieure à 2 mètres.</p> <ul style="list-style-type: none"> <li>- type SV ou SJ</li> <li>- 3 conducteurs</li> </ul> <p>Le cordon doit être en mesure d'acheminer un courant nominal d'au moins 10 A.</p> <p>La prise femelle de branchement doit être du type à mise à la terre (mise à la masse) et respecter la configuration NEMA 5-15P (15 A, 125 V) ou NEMA 6-15P (15 A, 250 V).</p>
Danemark:	<p>La prise mâle d'alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a.</p>
Suisse:	<p>La prise mâle d'alimentation doit respecter la norme SEV/ASE 1011.</p>
Europe	<p>La prise secteur doit être conforme aux normes CEE 7/7 ("SCHUKO")</p> <p>LE cordon secteur doit porter la mention &lt;HAR&gt; ou &lt;BASEC&gt; et doit être de type HO3VVF3GO.75 (minimum).</p>

**Bitte unbedingt vor dem Einbauen des RPU die folgenden Sicherheitsanweisungen durchlesen:**

**WARNUNG:** Die Installation und der Ausbau des Geräts darf nur durch Fachpersonal erfolgen.

- Diese Anleitung ist für die Benutzung durch Netzwerkadministratoren vorgesehen, die für die Installation und das einstellen von Netzwerkkomponenten verantwortlich sind; sie setzt Erfahrung bei der Arbeit mit LANs (Local Area Networks) voraus.
- Das Gerät sollte nicht an eine ungeerdete Wechselstromsteckdose angeschlossen werden.
- Das Gerät muß an eine geerdete Steckdose angeschlossen werden, welche die internationalen Sicherheitsnormen erfüllt.
- Der Gerätestecker (der Anschluß an das Gerät, nicht der Wandsteckdosenstecker) muß einen gemäß EN 60320/IEC 320 konfigurierten Geräteeingang haben.
- Die Netzsteckdose muß in der Nähe des Geräts und leicht zugänglich sein. Die Stromversorgung des Geräts kann nur durch Herausziehen des Gerätenetzkabels aus der Netzsteckdose unterbrochen werden.
- Der Betrieb dieses Geräts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gemäß IEC 60950. Diese Bedingungen sind nur gegeben, wenn auch die an das Gerät angeschlossenen Geräte unter SELV-Bedingungen betrieben werden

<b>Stromkabel.</b> Dies muss von dem Land, in dem es benutzt wird geprüft werden:	
Schweiz	Dieser Stromstecker muß die SEV/ASE 1011 Bestimmungen einhalten.
Europe	Das Netzkabel muß vom Typ HO3VVF3GO,75 (Mindestanforderung) sein und die Aufschrift <HAR> oder <BASEC> tragen. Der Netzstecker muß die Norm CEE 7/7 erfüllen ("SCHUKO").

## Warnings and Cautionary Messages

- Warning:** This product does not contain any serviceable user parts.
- Warning:** Installation and removal of the unit must be carried out by qualified personnel only.
- Warning:** When connecting this device to a power outlet, connect the field ground lead on the tri-pole power plug to a valid earth ground line to prevent electrical hazards.
- Warning:** This switch uses lasers to transmit signals over fiber optic cable. The lasers are compliant with the requirements of a Class 1 Laser Product and are inherently eye safe in normal operation. However, you should never look directly at a transmit port when it is powered on.
- Caution:** Wear an anti-static wrist strap or take other suitable measures to prevent electrostatic discharge when handling this equipment.
- Caution:** Do not plug a phone jack connector in the RJ-45 port. This may damage this device. Les raccordeurs ne sont pas utilisés pour le système téléphonique!
- Caution:** Use only twisted-pair cables with RJ-45 connectors that conform to FCC standards.

## Warnings (in German)

- Achtung:** Dieses Produkt enthält keine Teile, die eine Wartung vom Benutzer benötigen.
- Achtung:** Installation und Deinstallation des Gerätes müssen von qualifiziertem Servicepersonal durchgeführt werden.
- Achtung:** Wenn das Gerät an eine Steckdose angeschlossen wird, muß der Masseanschluß am dreipoligen Netzstecker mit Schutzerde verbunden werden, um elektrische Gefahren zu vermeiden.
- Achtung:** Dieses Gerät nutzt Laser zur Signalübertragung über Glasfasern. Die Laser entsprechen den Anforderungen an eine Lasereinrichtung der Klasse 1 und sind durch ihre Bauart im normalen Betrieb sicher für die Augen. Trotzdem sollte niemals direkt in den einen Übertragungskanal geblickt werden, wenn er eingeschaltet ist.

## **Environmental Statement**

The manufacturer of this product endeavours to sustain an environmentally-friendly policy throughout the entire production process. This is achieved though the following means:

- Adherence to national legislation and regulations on environmental production standards.
- Conservation of operational resources.
- Waste reduction and safe disposal of all harmful un-recyclable by-products.
- Recycling of all reusable waste content.
- Design of products to maximize recyclables at the end of the product's life span.
- Continual monitoring of safety standards.

## **End of Product Life Span**

This product is manufactured in such a way as to allow for the recovery and disposal of all included electrical components once the product has reached the end of its life.

## **Manufacturing Materials**

There are no hazardous nor ozone-depleting materials in this product.

## **Documentation**

All printed documentation for this product uses biodegradable paper that originates from sustained and managed forests. The inks used in the printing process are non-toxic.

## **Purpose**

This guide details the hardware features of the switch, including Its physical and performance-related characteristics, and how to install the switch.

## **Audience**

The guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).

Diese Anleitung ist für die Benutzung durch Netzwerkadministratoren vorgesehen, die für die Installation und das einstellen von Netzwerkkomponenten verantwortlich sind; sie setzt Erfahrung bei der Arbeit mit LANs (Local Area Networks) voraus.

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# CHAPTER 1: ABOUT THE REDUNDANT POWER UNIT

## Overview

This Redundant Power Unit (SMCRPU14) can supply 600 Watts of backup power to four switches in the event of an AC loss or failure of an internal power supply.

## Features and Benefits

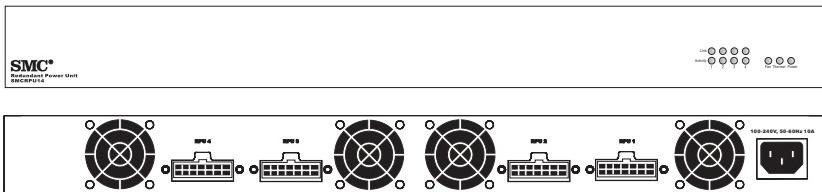
- Supports four switch units with 12 VDC supply of up to 150 W.
- Indicator LEDs located on the front panel.
- RPU AC line cord can draw power from a different supply circuit.
- DC line cords provide backup power to attached devices.
- Thermal overload protection prevents the RPU from overheating if a thermal overload occurs.
- Over-voltage protection shuts down an output channel if the voltage exceeds a preset threshold.
- Over-current protection shuts down the RPU if the output load exceeds a preset threshold.

- Short-circuit protection prevents the RPU from being damaged from a short circuit on any output channel.
- The RPU will operate under a no-load condition.

## Front and Rear Panels

Four status indicators Link, Activity, Fan, Thermal, and Power indicators are located on the RPU's front panel. While the AC supply and DC backup receptacles are located on the RPU's rear panel.

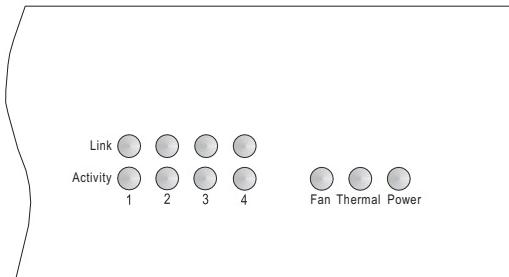
**Figure 1-1 Front and Rear Panels**



## LEDs

The following diagram and tables describe the functions of the LEDs.

**Figure 1-2 LEDs**



**Table 1-1 Port Status LEDs**

LED (1-4)	Condition	Status
Link	Off	The port does not have a valid connection to a switch.
	On Yellow	The port has a valid connection to a switch.
	Flashing Yellow	There has been an RPU internal power failure.
Activity	Off	The port is not providing power to the connected switch.
	Flashing Green	The port has been shut down due to one of the following conditions: The unit has detected an over-current condition. One or more of the unit's fans have failed.
	On Green	The port is providing power to a connected switch.

**Table 1-2 System LEDs**

LED	Condition	Status
Fan	On Green	The fans are functioning normally.
	Flashing Yellow	One or more fans are not operating properly.
	Off	The unit is powered off.
Thermal	On Green	The temperature of the unit is within an acceptable range.
	Flashing Yellow	Indicates a high temperature that is approaching an over-temperature condition.
	Off	The thermal unit has failed, or the unit is powered off.
Power	On Green	AC power is being supplied to the RPU.
	Off	No AC power is being supplied to the RPU.



# CHAPTER 2:

# INSTALLING THE

# REDUNDANT POWER UNIT

## Installation

The RPU may be placed on a desktop or mounted in a rack.

**Caution:** DO NOT place the RPU on the floor as the case is not waterproof. It is recommended that this RPU be installed in a network equipment rack.

## Selecting a Site

RPU units can be mounted in a standard 19-inch equipment rack or on a flat surface. Be sure to follow the guidelines below when choosing a location.

- The site should:
  - be at the center of all the devices you want to link and near a power outlet.
  - be able to maintain its temperature within 0 to 45 °C (32 to 110 °F) and its humidity within 5% to 95%, non-condensing
  - provide adequate space (approximately two inches) on all sides for proper air flow
  - be accessible for installing, cabling and maintaining the devices
  - allow the status LEDs to be clearly visible

- Make sure that a separate grounded power outlet that provides 100 to 240 VAC, 50-60 Hz, is within 2 m (6.56 feet) of each device and is powered from an independent circuit breaker. As with any equipment, using a filter or surge suppressor is recommended.

## Equipment Checklist

After unpacking the RPU, check the contents to be sure you have received all the components. Then, before beginning the installation, be sure you have all other necessary installation equipment.

### Package Contents

- Redundant Power Unit (SMCRPU14)
- One AC Supply Power Cord — US, Continental Europe or UK
- Four DC Backup Power Cords with IEC connectors on both ends (length 152 cm/59.84 inches each)
- Rack Mounting Kit containing brackets and screws
- Adhesive feet
- Registration Card

### Optional Rack-Mounting Equipment

If you plan to rack-mount the RPU, be sure to have the following equipment available:

- Four mounting screws for each device you plan to install in a rack—these are not included
- A screwdriver (Phillips or flathead, depending on the type of screws used)

# **Mounting**

RPU units can be mounted in a standard 19-inch equipment rack or on a desktop or shelf. Mounting instructions for each type of site follow.

## **Rack Mounting**

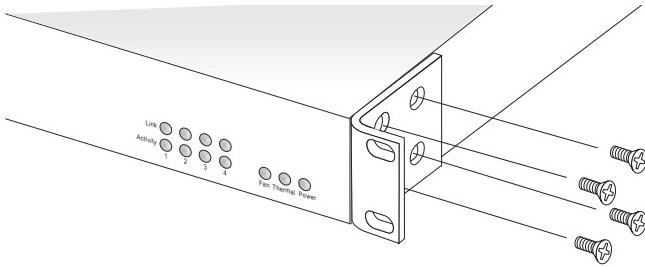
Before rack mounting the unit, pay particular attention to the following factors:

- Temperature: Since the temperature within a rack assembly may be higher than the ambient room temperature, check that the rack-environment temperature is within the specified operating temperature range.
- Mechanical Loading: Do not place any equipment on top of a rack-mounted unit.
- Circuit Overloading: Be sure that the supply circuit to the rack assembly is not overloaded.
- Grounding: Rack-mounted equipment should be properly grounded. Particular attention should be given to supply connections other than direct connections to the mains.

To rack-mount devices:

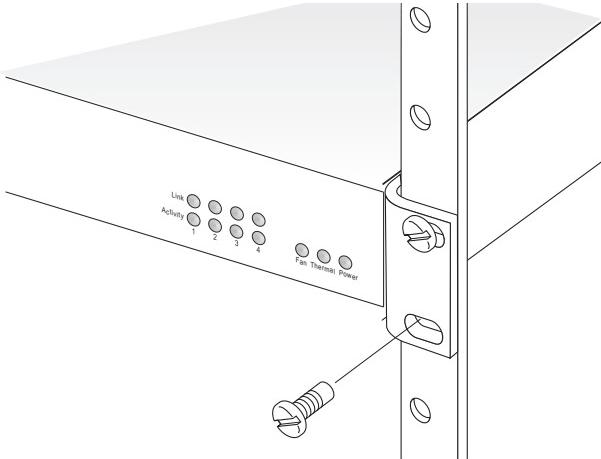
1. Attach the brackets to the device using the screws provided in the Bracket Mounting Kit.

**Figure 2-1 Attaching the Brackets**



2. Mount the device in the rack, using four rack-mounting screws (not provided).

**Figure 2-2 Installing the RPU in a Rack**



3. If also installing RPUs, mount them in the rack below the other devices.

---

## **Montage** (Rack Mounting - German)

SMCRPU14 RPU-Einheiten können an ein standardmäßiges 19-Zoll Einrichtungsrack, einen Arbeitstisch oder ein Regal montiert werden. Folgend finden Sie die Montageanweisungen für jeden Positionstyp.

### **Rack-Montage**

Beachten Sie die folgenden Faktoren, bevor Sie die Rack-Montage beginnen:

- Temperatur: Da die Temperatur innerhalb einer Rackeinheit höher als die Raumumgebungstemperatur sein kann, stellen Sie bitte sicher, dass die Rackumgebungstemperatur innerhalb des angegebenen Betriebstemperaturbereichs liegt. (Siehe "Temperatur" auf Seite C-1.)
- Mechanische Last: Stellen Sie kein Gerät auf eine Rack-Montageeinheit.
- Stromüberlastung: Stellen Sie sicher, dass der Netzkreis der Rackeinheit nicht überlastet wird.
- Erdung: Die Rack-Montageeinheit muss richtig geerdet werden. Besondere Acht sollten Sie bei Verbindungen geben, die nicht direkt zum Netz führen.

So montieren Sie Geräte an ein Rack:

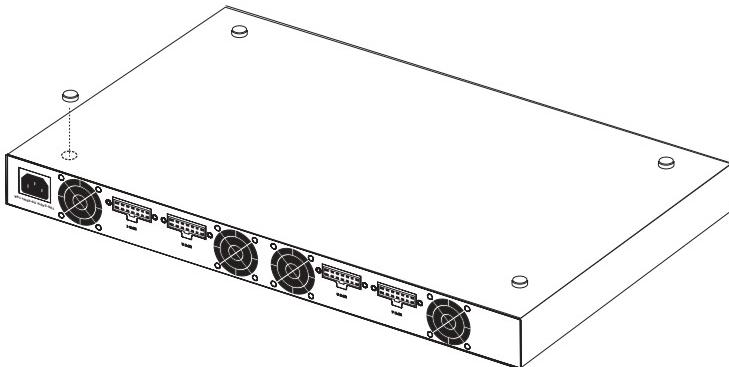
1. Befestigen Sie die Metallwinkel mit den im Metallwinkel-Montageset erhältlichen Schrauben an dem Gerät.
2. Befestigen Sie das Gerät mit vier Rackmontageschrauben (nicht beigelegt) an dem Rack.
3. Wenn Sie nur einen Switch installieren, dann springen Sie bitte über zu "Verbinden mit einer Stromquelle" auf Seite -6 am Ende dieses Kapitels.

Wenn Sie mehrere Switches installieren möchten, dann montieren Sie sie untereinander in einer beliebigen Reihenfolge.

## Desktop or Shelf Mounting

1. Attach the four adhesive feet to the bottom of the first RPU unit.

**Figure 2-3 Attaching the Adhesive Feet**



2. Set the device on a flat surface near an AC power source, making sure there are at least five centimeters or two inches of space on all sides for proper air flow.

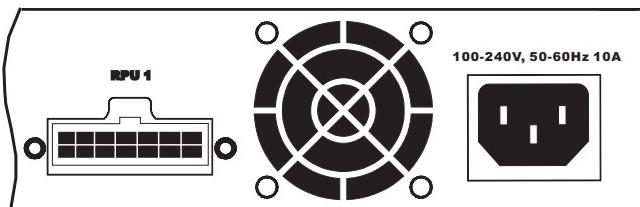
## Connecting Switches to the RPU

**Caution:** DO NOT connect the RPU to an AC power source until DC power cords have been connected to the supported switches.

To connect switches to the RPU:

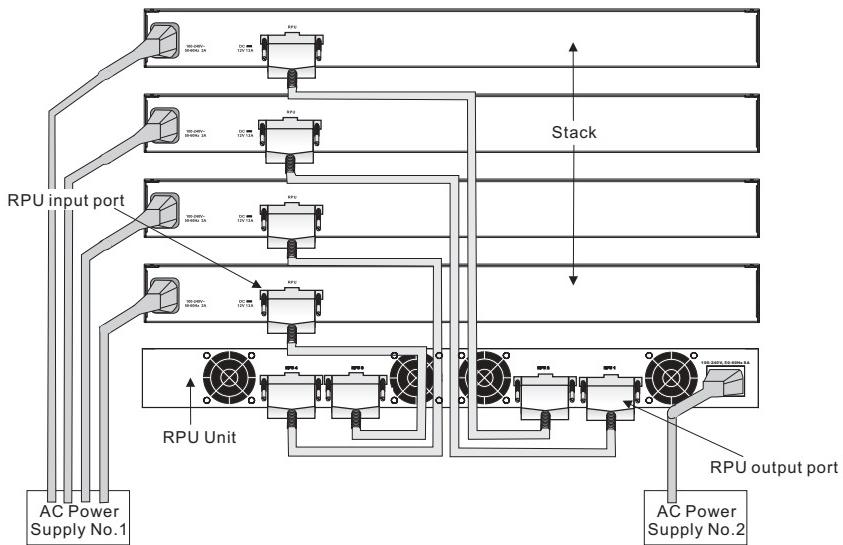
1. Connect one end of an AC cord to the AC receptacle on each supported switch, and the other end to a grounded power outlet.

**Figure 2-4 Power Receptacle**



2. Connect one end of a DC cord to the redundant power receptacle on the supported switch and the other end to an available receptacle on the RPU.
3. Repeat steps 1 and 2 for connecting up to four supported switches to the RPU.
4. Connect one end of the AC cord to the AC receptacle on the RPU, and the other end to a grounded power outlet.
5. Check the LEDs on the RPU to ensure proper operation. The Link LEDs for connected switches should light up. If the LEDs indicate otherwise, see “Troubleshooting” on page A-1 for more information.

**Figure 2-5 Connecting the RPU in a Stack**



**Note:** For International use, you may need to change the AC line cord. You must use a line cord set that has been approved for the receptacle type in your country.

# APPENDIX A

## TROUBLESHOOTING

---

### Diagnosing RPU Indicators

Table A-1 Troubleshooting Chart

Symptom	Action
Power LED is Off	<ul style="list-style-type: none"><li>Internal power supply is disconnected.</li><li>Check connections between the RPU, the power cord, and the wall outlet.</li><li>Contact Technical Support.</li></ul>
Link LED is Off	<ul style="list-style-type: none"><li>The port does not have a valid connection to a switch.</li><li>Check connections between the RPU and the switch.</li><li>Check that power is being supplied to the RPU.</li></ul>
Link LED is Flashing Yellow	<ul style="list-style-type: none"><li>There has been an RPU internal power failure.</li><li>Contact Technical Support.</li></ul>
Activity LED is Flashing Green	<ul style="list-style-type: none"><li>The port has been shut down due to one of the following conditions:<ul style="list-style-type: none"><li>The unit has detected an over-current condition.</li><li>One or more of the unit's fans have failed.</li></ul></li><li>Check if the Fan LED is off, which indicates a fan failure.</li><li>Check that the attached switch does not require more than 150 W of power.</li><li>Power cycle the RPU to clear the condition.</li><li>If the condition persists, contact Technical Support.</li></ul>
Fan LED is Flashing Yellow	<ul style="list-style-type: none"><li>One or more fans are not operating properly.</li><li>Replace the unit as soon as possible.</li></ul>

**Table A-1 Troubleshooting Chart**

Symptom	Action
Fan LED is Off	<ul style="list-style-type: none"><li>The unit is powered off.</li></ul>
Thermal LED is Flashing Yellow	<ul style="list-style-type: none"><li>Indicates a high temperature that is approaching an over-temperature condition.</li><li>Check that the unit's cooling fans are operating normally.</li><li>Power off the RPU unit and allow to cool.</li><li>If the condition persists, contact Technical Support.</li></ul>

## **Power and Cooling Problems**

If the PWR LED does not turn on when the power cord is plugged in, you may have a problem with the power outlet, power cord, or internal power supply. However, if the unit powers off after running for a while, check for loose power connections, power losses or surges at the power outlet, and verify that the fans on the unit are unobstructed and running prior to shutdown. If you still cannot isolate the problem, then the internal power supply may be defective. In this case, contact your distributor for assistance.

## **Installation**

Verify that all system components have been properly installed. If one or more components appear to be malfunctioning (such as the power cord or RPU cable), test them in an alternate environment where you are sure that all the other components are functioning properly.

# APPENDIX B.

# SPECIFICATIONS

---

## Physical Characteristics

### Ports

4 RPU DC power outlets (IEC socket 216C743-07)

### LEDs

Port: Link, Activity

System: Power, Fan, Thermal

### Weight

5.5 kg (12.1 lbs)

### Size

44.0 x 32.3 x 4.3 cm (17.34 x 12.6 x 1.69 in.)

### Temperature

Operating: 0 to 45 °C (32 to 110 °F)

Storage: -40 to 70 °C (-40 to 158 °F)

### Humidity

Operating: 20% to 90%

### AC Input

100 to 240 V, 50 to 60 Hz

### EIA Ratings

10 A @ 125 VAC

10 A @ 250 VAC

### DC Power Cable Connector

14-pin P-Type connector

**Power Supply**

Internal, auto-ranging transformer: 100 to 240 VAC, 50 to 60 Hz  
Output 11.5 VDC

**Power Consumption**

644 W (Maximum)  
161 W (Maximum per port)

**Maximum Current**

7.8 A @ 110 VAC  
3.5 A @ 240 VAC

**Overload Protection**

Ports are shutdown when output exceeds 150 W

**Power Supply**

+12 VDC  
Initial accuracy: +/- 1%  
Current: 2 A (minimum), 10 A (maximum)  
Line regulation: +/- 1%  
Load regulation: +/- 10%  
Overshoot and undershoot: 5%

# Compliances

CE Mark

**Emissions**

FCC Class B  
Industry Canada Class B  
CISPR Class B  
VCCI Class B  
AS/NZS 3548 (1995) Class B

**Immunity**

EN 55024

**Safety**

CSA/ C US (CSA 60950-00 & UL60950)

CB: IEC 60950

EN 60950 (TÜV/GS)



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From Europe (8:00 AM - 5:30 PM UK Time)  
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India:	91-22-8204437;	Fax 91-22-8204443

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